005-24

Biofortified cassava in Cameroon: outlook and perspectives

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Introduction

Vitamin A deficiency (VAD) affects about 127 million preschool children and nearly 20 million pregnant women, with 25-35% of cases reported in Africa (West, 2002).
VAD has been identified as a public health problem in Cameroon for decades (MINSANTE, 2001; Helen Keller International Cameroun, 2011; Engle-Stone, 2011).
In August 2011, the Government of Cameroon launched a mandatory program to fortify refined vegetable oil with vitamin A (Engle-Stone, 2017).
Biofortification of staple crop represents an effective and sustainable option to lessen Vitamin A deficiency among rural people (Nestel, 2006).

Materials and methods

- Pest, disease, yield, dry matter and total carotenoid contents evaluated in several consecutive trials;
  - Regional trial with 17 yellow cassava varieties (2016): I090090, I082461, I070539, I083594, I083724, I083774, I085392, I070557, I011797, C010040-27, I082264, I061635, I070703, C011814-9, I070593, I011412, and I090151;
  - Advanced yield trial on station(2016);
  - Multilocation trial in 8 locations (2017);
- Processing ability into local fufu evaluated with CIRAD;
- Multiplication plots established.

Results

- Good CMD scores (only 4 clones with mid CMD symptoms);
- Several varieties eliminated : poor yield, low dry matter, high % root rot;
- Good yield in Ekona, Bertoua (mid altitude), poor performance in Njombe (low altitude);
- Average TTC ranged from 10.36 µg/g to 3.51 µg/g;
- Good processing ability of two clones into local Fufu in east Cameroon;
- Three clones inserted in National catalogue in List C (need "DHS &VATE test" to move to list A);
- Open day organized with stakeholders with product from yellow cassava;
- 0.3 million cassava cuttings of I070593 produced and distributed by the ministry of agriculture.

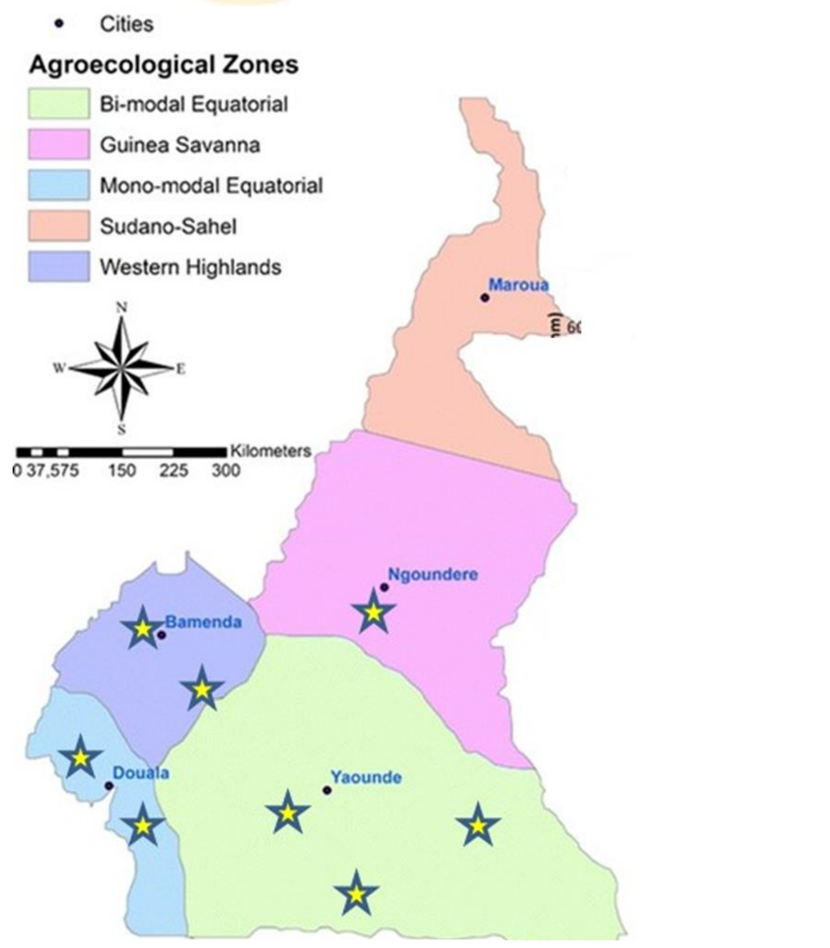

Figure 1. Locations for yellow cassava testing in Cameroon

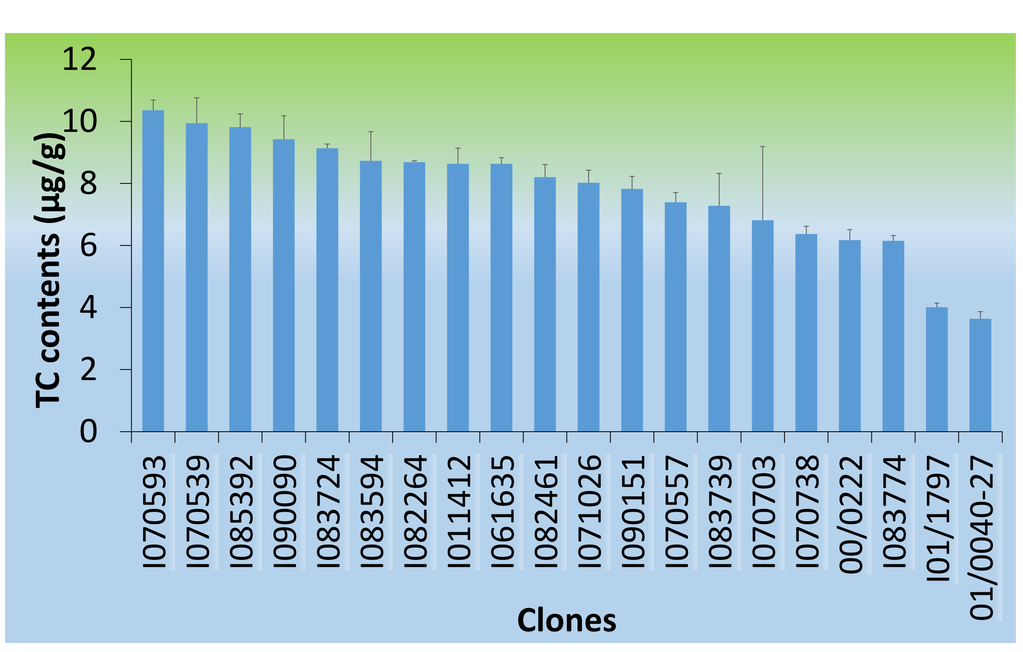

Figure 2. Average total carotenoids content in yellow cassava in Cameroon

Figure 3. Sun-drying of yellow cassava for fufu in east Cameroon (Photo by CIRAD)